



Climate change and conflict: Global insecurity and the road less traveled

Courtney Work

Department of Ethnology, National Chengchi University, No. 64, Sec. 2 ZhiNan Rd, Wenshan District, Taipei City 11605, Taiwan

ARTICLE INFO

Keywords:

Climate change
Conflict
Cooperation
Development
Security
Justice

ABSTRACT

Fears of climate conflict expected to erupt in states with unstable political and economic systems contribute to the global land rush through emerging politics of climate change mitigation and adaptation. Scholarship reveals, however, that solutions to the problem of climate change, like biofuel production, carbon capture, and 'climate-smart' industrial agriculture, are exacerbating both conflict and environmental change. This contradiction is created in part by long-standing and unchanging policies regarding societal security, which legitimizes economic development's extractive resource transformations to avert conflict, incorporates climate change mitigation and adaptation into a development framework, and exacerbates the environmental crises of over-development. On a positive note, the obvious failure of these policies gives rise to social and scientific collaborations that disrupt the conflict scenarios promoting continued economic growth as the path to peace. New cooperation from the ground up can create new possibilities for integrated, and thus actually sustainable futures.

1. Introduction

Land and resource use during the past 200 years has ushered in unprecedented climate instability and ecological collapse. [IPCC \(2014\)](#) provides strong evidence and directly connects industrial development to climate change. Policymakers at this critical juncture are not, however, focused on finding new or cultivating existing land-use practices that do not exacerbate climate change; rather, the focus is on alternative energy sources and methods to continue industrialized economic growth and accumulation. Neither of these make perceptible alterations to existing practice. The most visible changes involve a spectacle of climate-sensitive interventions and sustainable development initiatives ([Igoe, 2010](#); [Corson et al., 2013](#)); the regulation and sale of carbon, enhancements to industrial agriculture and industrial infrastructure, and the development of non-fossil energy sources, for example ([Corbera and Schroeder, 2011](#); [Hunsberger et al., 2014](#); [Taylor, 2017](#); [World Bank, 2013, 2016](#)). The insufficiency of these initiatives to achieve results that are actually sustainable is now documented, even by scientists who promote development in its revised and sustainable form ([Dittrich, 2012](#); [UNEP, 2017](#)).

Climate stabilization requires dramatic changes to our current economic model, which are not forthcoming. It is therefore urgent at this juncture, to understand the mechanisms through which the possibility for change is foreclosed. This paper examines one element of the legitimizing forces that justify continued industrial development despite little change to its practices, environmental costs, or social injustice. This well-traveled road is conflict, and in particular the framing

of environmental degradation, and by extension climate change, as a state security threat ([Devlin and Hendrix, 2014](#); [Homer-Dixon, 2000](#); [United Nations, 2004](#)). In the current era, developed nations attempt to expand markets, secure world peace, and deter civil war through economic development ([Rist, 2008](#)). This process connects to a long history in which elite and civilized modes of land use are privileged over other existing possibilities ([Moore, 2017](#)); and is justified through the 'fact' that peace and prosperity can only be achieved by overcoming human competition over freely accessible resources. This 'natural' state of war requires centralized control of resources and the suppression or accommodation of groups that would use resources to support their own elite ambitions ([Le Billon, 2001](#)).

It is in this context, where resource access determines elite status, that conflict becomes a defining justification for enhancing resource governance and increasing economic opportunities ([World Bank, 2011](#)). This is a narrow framing of conflict, however, focused only on armed and violent conflicts that threaten state stability ([Selby, 2014](#)), stability that is presumed necessary for peace and prosperity. Such a restricted lens obscures the other conflicts and violent acts against peasant and indigenous communities, and all other species using common resources, when water and land are transformed into economic opportunities ([Peluso and Watts, 2001](#)). These two conceptions of conflict explicitly speak past one another. One, concerned with state security and stability, follows a Hobbesian framework in which 'natural' competition over scarce resources must be suppressed ([Homer-Dixon, 2010](#)). The other, focused on social and ecological justice and human security, defines conflict broadly through the multiple injustices

E-mail address: cwork@nccu.edu.tw.

<https://doi.org/10.1016/j.geoforum.2018.11.004>

Received 1 July 2018; Received in revised form 30 October 2018; Accepted 5 November 2018
0016-7185/ © 2018 Elsevier Ltd. All rights reserved.

that arise in the political economy of development (Martinez-Alier, 2002; White et al., 2012). Bringing these two strands of conflict together traces how economic development and strong state control of natural resources are at once the primary solutions to controlling state-level conflict, and the primary causes of another type of conflict: dispossession and environmental stress. The poetic irony of this situation is also creating the conditions through which conflict can be transformed and meaningful change can take place (Martinez-Alier et al., 1998).

As global development gains speed and intensity through newly sustainable, adaptive, and climate-change-mitigating development, its contradictions are impossible to disguise and even more difficult to contain. This gives rise to important collaborations in social movements and across the scientific and political communities to which this review draws attention (Claeys and Pugley, 2016; Martinez-Alier, 2002; UN, 2008). Highlighting these collaborations disrupts the narrative of 'natural' resource conflict in the face of scarcity and makes space to better understand the new dynamics of resistance and emerging voices for change. As the engine of capitalism continues to *create scarcity* by enclosing and transforming common pool resources, activists, scientists, and scholars are taking the road less traveled. Collaborations are underway aimed at dismantling the silos that contain disciplines and divide social groups. It is becoming clear that competition over resources is not the state of nature, but may be the nature of the state. Conflicts are not dangers to be controlled, but symptoms whose transformative natures may hold the seeds for achieving shared objectives.

2. The normative narrative of resource conflict

The threat of conflict over scarce resources in the absence of a strong state has, at least since Thomas Hobbes (1668 [1994]), been accepted as the 'natural' state of human existence. This threat, compounded by the potential resource inefficiencies of peasants and wild nature, requires efficient management schemes to ensure abundance for all (Locke, 1698 [1965]). Malthusian population and environmental degradation concerns justified further management and centralized control of resources, creating an enduring natural logic of land governance (Moore, 2017). In the post-World War II, post-colonial context of global instability, the underdevelopment and impoverishment of colonies posed a threat to the emerging global order. At the time, then president Truman promoted "capital investments" designed to "help them [impoverished nations] realize their aspirations for a better life" (Inagural Address, cited in Rist, 2008: 71). These investments targeted natural resource exploitation as a pathway toward economic growth, peace, and security. The failure of underdeveloped nations to provide for growing populations and their high incidence of civil wars, known as 'the resource curse', increased development interventions to enhance economic growth and resource governance strategies (Cramer, 2006; Le Billon, 2001; Ross, 1999).

Exemplified by the stability of developed states, economic development through natural resource exploitation and market management is believed to contain conflict-induced political instability (Collier et al., 2003). This point is further supported by the high incidence of factional conflicts in less developed states, where there are limited opportunities for non-state elites and investors to exploit and market resources. This does not actually confirm any connection between resources and conflict per se, but rather between conflict, stable states, and resource exploitation in the context of commercialization and trade (Elliot, 2015; Le Billon, 2001).

Within this paradigm, the 'fact' of violent conflict over resources remains unquestioned as climate-conflict becomes part of the discussion (O'Lear and Tuten, 2013). The assumption is that climate events can reduce economic growth and decrease the opportunity costs of rebellions, and can create disasters that degrade resource availability and further weaken the state's ability to contain conflict (Hendrix and Salehyan, 2012; Vivekananda et al., 2014). These are assumptions with little empirical evidence to support the claims (Selby, 2014).

Nonetheless, activities continue as if peace requires that states satisfy the needs of peaceful prosperous people, the greed of violent factions, and the grievances of both—while the peace, security, and prosperity of those incapable of threatening the state can be ignored.

3. Economic development and conflicts

Those weak and small communities whose conflicts are ignored have suffered a long history of violence, displacement, and disenfranchisement. Evidence for this lies in the archeological records of early states, and has been well recorded since Marx's critique of capital and the industrial revolution. Importantly, modern events of primitive accumulation and the enclosure of common pool resources show remarkably little change in either the purpose for resource capture or the processes through which such grabs are legitimized. In the current era of multiple global crises in food, energy, finance, and climate, an aggressive rush on land and resources is underway (Scoones et al., 2013). 'Wastelands' are converted into investment opportunities through governance policies that identify, map, demarcate, and redistribute 'under-used' land through cadastral and titling projects. In addition to the substantial profits from making land and resources available for commercialization and trade, these conversions restrict access for multiple other users.

Divesting communities of their land holdings and common pool resources are often militarized events, in which communities with informal, generational land claims are evicted, and international ideas of appropriate land-use trump all other options (Grajales, 2013; Neves and Igoe, 2012). Cast as "development" (Escobar, 1995), these violent political acts of economic growth are understood to be alleviating poverty in underdeveloped nations, which obscures their social and environmental costs. The well-reported effects of many of these projects (in addition to the creation of wealth and the pacification of elite classes) are dispossession of the poor, deforestation, environmental degradation, poisoned local water sources, over-exploited soil nutrients, and massive species extinction (Castellanos-Navarrete and Jansen, 2015; Dressler et al., 2017; Lindgren, 2017). These conflicts lie beyond the scope of the security framework, however, because they do not threaten state stability. Not yet, at least. Climate change caused by extractive economic development could very well destabilize states, nonetheless the solutions for climate conflict continue to focus on the resources themselves and thus are centered on economic growth and resource governance solutions (World Bank, 2016).

4. The conflicts of climate change politics

Framed as a threat multiplier, solutions to combat climate conflict consist in "conflict-sensitive mitigation and adaptation strategies that contain conflict and contribute to cooperation via effective institutional frameworks, resource management initiatives and climate change mitigation and adaptation projects" (Scheffran et al., 2012: 871). While these policies are discursively 'sustainable' and 'climate-sensitive' interventions, in practice they differ little from earlier initiatives (Igoe, 2010; Work et al., 2018). Climate change as a resource threat, justifies the industrial production of specialized seeds and irrigation systems for 'climate-smart' agriculture, as well as heavy infrastructure projects to protect commodity trade (World Bank, 2013, 2016). The carbon burden of the industrial production of non-carbon energy sources, like bio-gas, solar, wind, and hydropower, or "low-carbon, climate-resilient infrastructure" is not calculated among the "upfront costs" of these activities (World Bank, 2016:8), which require unchanged technologies to implement.

In addition, industrial tree plantations take on new climate-mitigating significance, and markets are conjured to sell carbon captured through preserving or restoring natural forests (Milne and Adams, 2012; Scheidel and Work, 2018). The natural (wasteful) state of the forest may be beyond capture by carbon markets, but it is not beyond

inundation for the clean energy from hydropower dams, nor is the forest immune to conversion for the industrial production of ethanol feed stocks (Hunsberger et al., 2014; Lamb and Dao, 2017; Redford and Adams, 2009). Consistently, we find climate change mitigation and adaptation projects encourage emissions and deforestation in one area by sequestering carbon or creating clean energy in another (Corbera and Schroeder, 2011; Corson et al., 2013). Adding insult to injury, these 'conflict-sensitive' initiatives distribute benefits to the rich and costs to the poor, while calculating all of non-human nature as commensurate with monetary value (Martinez-Alier et al., 1998; Sullivan, 2017).

5. Conflicts can create new solutions

It is now clear that policy decisions directed toward climate change are not fostering 'new' land uses, but only redefining existing ones (Work et al., 2018). At this moment, cracks in the system emerge and new collaborations are forming. This is not the cooperation desired by development donors, who want the companies, governments, and marginalized people to just get along and respect each other (Scheffran et al., 2012), while our common-pool resources are exploited and enclosed for elite consumption. These new collaborations are both newly understood instances of ever-present cooperation, and intentional transformations of conflict in search of a new way (Martinez-Alier et al., 1998; Tsing, 2015). Activists and academics now collaborate to provide data documenting environmental justice abuses and aggregate it worldwide (Martinez-Alier et al., 2016; Work, 2017). Previously antagonistic agrarian and indigenous people's movements are now joining forces amid shared experiences of climate change politics (Claeys and Pugley, 2016).

These collaborations open the way toward less-travelled routes in search of effective political solutions for the re-conceptualization of economic growth, and the re-integration of human society into the broader ecosystem (Daly and Farley, 2010; Asara et al., 2015). Biologists and social scientists grapple together with these emerging paradigms, which reconfigure the competition of 'nature' into arenas of opportunistic collaboration where individual actors thrive in interconnected systems of continual change (Hastrup, 2018; Tsing, 2015). More accurate understandings of how ecosystems operate are emerging along with growing acceptance of the idea that conflict and cooperation are not mutually exclusive domains, with one more valuable or destructive than the other. Closer attention to the dynamic places where development occurs makes clear that conflict co-exists with cooperation, and the fact that both exist in social and ecological fields suggests the need to travel beyond project boundaries, individual species desires, or the elemental forces of 'nature'.

6. Conclusion

Despite limited evidence connecting resources to conflict, the control of resources through economic transformations and cadastral initiatives continue to inform security policies as an effective deterrent to conflict. In the context of climate instability, the climate becomes the conflict instigator with equally thin empirical justification. In both scenarios, the economic and governance solutions to potential state-level conflicts can give rise to social and ecological conflicts that fly below the statistics. In our current era, the management and utilization of half the ice-free earth destabilizes the climate and impoverishes populations, calling into question how climate change and expected resource scarcity can be considered the problem that threatens state security.

At this intersection of empirical and narrative conflict, a new paradigm emerges. New ideas find purchase in the rubble of a centuries-long dialectic of state making and its consequences. This is a discourse of cooperation, collaboration, and interconnection in which "multi-class, multi-sectoral, and multi-identity struggles" come to the fore (Borras and Franco, 2018: 13). Security can be realized when the

human population travels together on the land and water of our collective commons. In this way we can contribute to collaborative transformations currently and continuously taking place, in which multiple species thrive in ecosystems unconstrained by free market forces, and where disciplinary boundaries dissolve to make way for the empirical world.

Acknowledgements

Funding provided by the Netherlands Organisation for Scientific Research (NWO) (grant number W 07.68.416) to the MOSAIC project - Climate change mitigation policies, land grabbing and conflict in fragile states: understanding intersections, exploring transformations in Myanmar and Cambodia. Many excellent readers helped bring this paper into being, especially Kevin Woods, Sara Vigil, Mads Barbsgaard, Arnim Scheidel, Clara Park, Carol Hunsberger, and Yukari Sekine. I also appreciate the helpful insights of editors at Geoforum.

References

Asara, Viviana, Otero, Iago, Demaria, Federico, Corbera, Esteve, 2015. Socially sustainable degrowth as a social-ecological transformation: repoliticizing sustainability. *Sustain. Sci.* 10 (3), 375–384.

Lamb, V., Dao, N., 2017. Perceptions and practices of investment: China's hydropower investments in mainland Southeast Asia. *Can. J. Develop. Stud./Revue Canadienne d'études Du Développement* 38 (3), 395–413.

Le Billon, Philippe, 2001. The political ecology of war: natural resources and armed conflicts. *Polit. Geogr.* 20, 561–584.

Borras, Saturnino, Franco, Jennifer C., 2018. The challenge of locating land-based climate change mitigation and adaptation policies within a social justice perspective: towards an idea of agrarian climate justice. *Third World Quarter.* 6597, 1–18.

Castellanos-Navarrete, Antonio, Jansen, Kees, 2015. Oil palm expansion without enclosure: smallholders and environmental narratives. *J. Peasant Stud.* 42 (3–4), 791–816.

Claeys, Priscilla, Pugley, Deborah Delgado, 2016. Peasant and indigenous transnational social movements engaging with climate justice. *Can. J. Develop. Stud./Revue Canadienne d'études Du Développement* 1–16.

Collier, Paul, et al., 2003. *Breaking the Conflict Trap: Civil War and Development Policy.* World Bank and Oxford University Press, Washington, DC.

Corbera, Esteve, Schroeder, Heike, 2011. Governing and implementing REDD+. *Environ. Sci. Policy* 14 (2), 89–99.

Corson, Catherine, Macdonald, Kenneth Iain, Neimark, Benjamin, 2013. Grabbing 'Green': markets, environmental governance and the materialization of natural capital. *Human Geogr.* 6 (1), 1–15.

Cramer, Chris, 2006. *Civil War Is Not a Stupid Thing: Accounting for Violence in Developing Countries.* Hurst and Company, London.

Daly, He, Farley, J., 2010. Ecological economics: principles and applications. *Ecol. Econ.* 55, 541.

Devlin, Colleen, Hendrix, Cullen S., 2014. Trends and triggers redux: climate change, rainfall, and interstate conflict. *Polit. Geogr.* 43, 27–39.

Dittrich, M., Giljum, S., Lutter, S., Polzin, C., 2012. Green economies around the world? Implications of resource use for development and the environment. Vienna. Retrieved from http://seri.at/wp-content/uploads/2012/06/green_economies_around_the_world.pdf.

Dressler, Wolfram H., et al., 2017. The impact of swidden decline on livelihoods and ecosystem services in Southeast Asia: a review of the evidence from 1990 to 2015. *Ambio* 46 (3), 291–310.

Elliott, L., 2015. Human security/environmental security. *Contempor. Politic.* 21 (1), 11–24. <https://doi.org/10.1080/13569775.2014.993905>.

Escobar, Arturo, 1995. *Encountering Development: The Making and Unmaking of the Third World.* Princeton University Press, Princeton.

Grajales, Jacobo, 2013. State involvement, land grabbing and counter-insurgency in Colombia. *Develop. Change* 44 (2), 211–232.

Hastrup, Kirsten, 2018. Collaborative moments. Expanding the anthropological field through cross-disciplinary practice. *Ethnos* 83 (2), 316–334.

Hendrix, Cullen S., Salehyan, Idean, 2012. Climate change, rainfall, and social conflict in Africa. *J. Peace Res.* 49 (1), 35–50.

Hobbes, Thomas, 1994. *Leviathan.* Hackett Publishing Company, Inc., Indianapolis.

Homer-Dixon, Thomas, 2010. *Environment, Scarcity, and Violence.* Princeton University Press, Princeton.

Homer-Dixon, Thomas F., 2000. *Scarcity and Conflict.* Forum Appl. Res. Public Policy 15 (1), 28.

Hunsberger, Carol, Bolwig, Simon, Corbera, Esteve, Creutzig, Felix, 2014. Livelihood impacts of biofuel crop production: implications for governance. *Geoforum* 54, 248–260.

Igoe, Jim, 2010. The spectacle of nature in the global economy of appearances: anthropological engagements with the spectacular mediations of transnational conservation. *Critique Anthropol.* 30 (4), 375–397.

IPCC, Intergovernmental Panel on Climate Change, 2014. *Climate Change 2014 Synthesis Report Summary Chapter for Policymakers.*

Lindgren, Tim, 2017. Ecocide, genocide and the disregard of alternative life-systems. *Int. J. Human Rights* 1–25.

Locke, John, 1698. *Two Treatises of Government*. New American Library, New York.

Martinez-Alier, Joan, 2002. *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*. Edward Elgar Publishing, Cheltenham.

Martinez-Alier, Joan, Munda, Giuseppe, O'Neill, John, 1998. Weak comparability of values as a foundation for ecological economics. *Ecol. Econ.* 26 (3), 277–286.

Martinez-Alier, Joan, Temper, Leah, Del Bene, Daniela, Scheidel, Arnim, 2016. Is there a global environmental justice movement? *J. Peasant Stud.* 43 (3), 731–755.

Milne, Sarah, Adams, Bill, 2012. Market masquerades: uncovering the politics of community-level payments for environmental services in Cambodia. *Develop. Change* 43 (1), 133–158.

Moore, Jason W., 2017. The capitalocene, Part I: On the nature and origins of our ecological crisis. *J. Peasant Stud.* 44 (3), 594–630.

Neves, Katja, Igoe, Jim, 2012. Uneven development and accumulation by dispossession in nature conservation: comparing recent trends in the Azores and Tanzania. *Tijdschrift Voor Economische En Sociale Geografie* 103 (2), 164–179.

O'Lear, Shannon, Tuten, Adalric H., 2013. Environment and conflict: security, climate change, and commodity resources. *Whitehead J. Diplomacy Int. Relat.* 14 (1), 97–109.

Peluso, N., Watts, M., 2001. Violent Environments. In: Peluso, N., Watts, M. (Eds.), *Violent Environments*. Cornell University Press, Ithaca.

Redford, Kent H., Adams, William M., 2009. Payment for ecosystem services and the challenge of saving nature: editorial. *Conserv. Biol.* 23 (4), 785–787.

Rist, Gilbert, 2008. *The History of Development: From Western Origins to Global Faith*. Zed Books, London and New York.

Ross, Michael, 1999. The political economy of the resource curse. *World Politics* 51 (2), 297–322.

Scheffran, Jürgen, Brzoska, Michael, Kominek, Jasmin, Link, Michael P., Shilling, Janpeter, 2012. Climate change and violent conflict. *Science* 366 (May), 869–872.

Scheidel, Arnim, Work, Courtney, 2018. Forest plantations and climate change discourses: new powers of 'green' grabbing in Cambodia. *Land Use Policy* 77.

Scoones, Ian, Hall, Ruth, Borras Jr, Saturnino M., White, Ben, Wolford, Wendy, 2013. The politics of evidence: methodologies for understanding the global land rush. *J. Peasant Stud.* 40 (3), 469–483.

Selby, Jan, 2014. Positivist climate conflict research: a critique. *Geopolitics* 19 (4), 829–856.

Sullivan, Sian, 2017. What's ontology got to do with it? Nature, knowledge and 'the green economy'. *J. Polit. Ecol.* 24, 217–242.

Taylor, Marcus, 2017. Climate-smart agriculture: what is it good for? *J. Peasant Stud.* 1–19.

Tsing, Anna Lowenhaupt, 2015. *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Princeton University Press, Princeton.

UNEP, United Nations Environment Programme, 2017. *The Emissions Gap Report 2017 – A UN Environment Synthesis Report*. United Nations Environment Programme (UNEP). <https://doi.org/ISBN 978-92-9253-062-4>.

United Nations, 2008. *United Nations Declaration on the Rights of Indigenous Peoples*.

United Nations High Level Panel on Threats, Challenges and Change, 2004. *A More Secure World: Our Shared Responsibility*. New York: United Nations Secretariat.

Vivekananda, Janani, Schilling, Janpeter, Smith, Dan, 2014. Climate resilience in fragile and conflict-affected societies: concepts and approaches. *Develop. Practice* 24 (4), 487–501.

White, Ben, Borras Jr, Saturnino M., Hall, Ruth, Scoones, Ian, Wolford, Wendy, 2012. The new enclosures: critical perspectives on corporate land deals. *J. Peasant Stud.* 39 (March), 619–647.

Work, Courtney, 2017. Forest islands and castaway communities: REDD+ and forest restoration in prey lang forest. *Forests* 8 (2), 1–21.

Work, C., Song, D., Rong, V., Scheidel, A., 2018. Maladaptation and development as usual? Investigating climate change mitigation and adaptation projects in Cambodia. *Clim. Policy*. <https://doi.org/10.1080/14693062.2018.1527677>.

World Bank, 2011. *World Development Report 2011: Conflict, Security, and Development*.

World Bank, 2013. *Implementing Agriculture for Development: World Bank Group Agriculture Action Plan 2013–2015*.

World Bank, 2016. *World Bank Group Climate Change Action Plan 2016–2020*. Washington, DC.